

**NATIONAL INSTITUTE OF TECHNOLOGY,
TIRUCHIRAPPALLI**

COURSE OUTLINE TEMPLATE			
Course Title	Non-Ferrous Metallurgy		
Course Code	MTPC22	No. of Credits	04
Department	MME	Faculty	Dr. N.Ramesh Babu
Pre-requisites Course Code	MTPC12		
Course Coordinator(s) (if, applicable)	NA		
Other Course Teacher(s)/Tutor(s) E-mail		Telephone No. Email	3464 nrb@nitt.edu
Course Type	Core course		
COURSE OVERVIEW			
COURSE OBJECTIVES			
To comprehend the basic principles of non-ferrous materials and apply those principles to demanding engineering applications.			
COURSE OUTCOMES (CO)			
Course Outcomes	Aligned Programme Outcomes (PO) (Enter Numbers only)		
CO1 -Understand the structure and properties of nonferrous metals and alloys	[1]		
CO2 -Identify the phases present in different alloy systems by analyzing the phase diagrams	[1,2]		
CO3 -Apply the basic principles of non-ferrous physical metallurgy for recommending materials for specific applications	[1,3]		

COURSE TEACHING AND LEARNING ACTIVITIES				
S.No.	Week	Topic	Mode of Delivery	
1.	I-IV	Physical metallurgy, properties and applications of Aluminium and its alloys	Online classes, VC Mode PPTs	
2.	V-VII	Physical metallurgy, properties and applications of Titanium and its alloys		
3.	VIII-X	Physical metallurgy, properties and applications of Magnesium alloys and Copper alloys		
4.	XI-XIII	Physical metallurgy, properties and applications of other non-ferrous metal and alloys		
5.	XIV-XV	Super alloys and Intermetallics		
COURSE ASSESSMENT METHODS				
S.No. (Assessments)	Mode of Assessment	Week/Date during	Duration	% Weightage
1	Assignment -I	21 st Feb 2022	1 hour	10
2	Mid test	15 th Mar 2022	2 hours	30
3	Assignment -II	19 th April 2022	2 hours	30
	Retest	XIII week	2hours	30 (only for students missing mid-test for medical reasons)
4	End semester	18-20 May 2022 (As per Academic schedule)	2 hours	30

ESSENTIAL READINGS: Textbooks, Reference books, Website addresses, Journals, etc

1. Polmear I. J., Light Alloys: From Traditional Alloys to Nanocrystals, 4th Edition, ButterworthHeinemann, 2006
2. Alan Russell and, Kok Loong Lee ., Structure-Property Relations in Nonferrous Metals, Wiley-Interscience, 2005.
3. ASM Handbook: Properties and Selection: Nonferrous Alloys and Special-Purpose Material, 10th edition, ASM International, 1990
4. Joseph R. Davis, Alloying: Understanding the Basics, ASM International, 2001
5. Angelo P C and Ravisankar B“Non Ferrous Alloys: Structures, Properties and EngineeringApplications”, Cengage publishers, 2018
6. Raghavan V, Materials Science and Engineering – A First Course, Prentice Hall India, 2004.

COURSE EXIT SURVEY (mention the ways in which the feedback about the course is assessed and indicate the attainment also)

The student’s feedback will be assessed based on the questionnaire prepared by the Institute and the expected attainment to be greater 80%. The feedback collected from the students by the Institute is to be informed to the teacher to improve the course content and delivery.

COURSE POLICY

(Including plagiarism, academic honesty, attendance, grading, etc.)

1. No grade will be awarded for attendance. The students are advised to attend all the classes except for medical reasons. Students are advised to meet the institute requirements for % attendance.
2. The relative grading policy will be followed, and the passing minimum marks will be fixed based on Institute guidelines.

ADDITIONAL COURSE INFORMATION

Students can contact the Course Faculty through email/phone.

The Course Faculty is available for consultation by appointment through email/phone.
The Course Coordinator email id/phone number are available in this course plan.

For senate consideration



Course Faculty



Class Committee Chairman



HOD/MME